



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,049	06/20/2003	Thomas N. Chalin	WCMI-0035	6461

20558 7590 01/27/2005

KONNEKER & SMITH P. C.  
660 NORTH CENTRAL EXPRESSWAY  
SUITE 230  
PLANO, TX 75074

EXAMINER

BELLINGER, JASON R

ART UNIT PAPER NUMBER

3617

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/600,049

Applicant(s)

CHALIN ET AL.

Examiner

Jason R Bellinger

Art Unit

3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 5-12, 22-29, 37, 40-42 and 45-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 13-21, 30-36, 38, 39, 43 and 44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/20/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Election/Restrictions***

1. Applicant's election of species I, drawn to Figures 2-4, in the reply filed on 20 December 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 5-12, 22-29, 37, 40-42, and 45-52 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 20 December 2004.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 30, 38, and 43-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright et al. Wright et al shows an axle assembly 1 including an axle 2, at least a portion of which is made of a composite material. A spindle 5 is attached, or bonded, to the composite axle 2. A beam (unlabelled portion that attaches the axle assembly 1 to the container 10) is attached to the axle 2 by the axle 2 passing through the beam.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 30-31, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aton in view of Wilcox. Aton shows an axle assembly including an axle 2 and a spindle 1 attached to the axle 2. The spindle 1 is attached to a sleeve 12 that at least partially overlies the axle 2. An axle portion 5 is received within an interior 4 of the spindle 1.

Aton does not specify that at least a portion of the axle is made of a composite material. Wilcox teaches the use of an axle assembly having an axle 12 made from a composite material. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form at least a portion of the axle of Aton from a composite material, for the purpose of reducing the weight of the axle without sacrificing strength, rigidity, etc.

7. Claims 2-4, 13-14, 17-20, 33-34, and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aton in view of Wilcox as applied to claims 1, 30-31, and 36 above, and further in view of VanDenberg.

Art Unit: 3617

It is well known in the art that an axle contains the same components on each end, and therefore, Aton as modified by Wilcox shows an axle 2 having at least two metal sleeves 12 secured exteriorly about the axle 2. Aton as modified by Wilcox would then also show two spindles 1 attached to the respective sleeves 12. The axle 2 extends through the sleeves 12 (namely, axle portion 5 extends through the sleeves 12). An axle portion 5 is received within an interior 4 of the spindle 1.

Aton as modified by Wilcox does not disclose the axle assembly being attached to a suspension system having beams. VanDenberg teaches the use of an axle 19 attached to a suspension system. Namely, at least two beams 15 are attached to the axle 19 for pivoting displacement of the axle 19 relative to a vehicle frame 2. The axle 19 extends between and through each of the beams 15. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to that the axle assembly of Aton as modified by Wilcox could be mounted on a suspension system as taught by VanDenberg to provide a reduced weight, yet durable, suspension and axle system.

The sleeves 12 of Aton as modified by Wilcox could be attached to a respective one of the beams 15. As shown in VanDenberg, the portion of each beam end 18 that surrounds the axle 19 acts as a pair of axle seats. These axle seats would be interconnected between the sleeves 12 of Aton as modified by Wilcox and the beams 15 of VanDenberg.

Art Unit: 3617

8. Claims 15-16, 21, 32, 35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aton in view of Wilcox and VanDenberg as applied to claims 2-4, 13-14, 17-20, 33-34, and 43-44 above, and further in view of Azevedo. Aton as modified by Wilcox and VanDenberg does not specify that each sleeve is bonded to the axle, or that the beams are welded to the sleeves, or that the spindles are bonded to the axle.

Azevedo teaches the use of a pre-applied adhesive coating composition that bonds multiple parts, such as nuts and bolts, etc. together. This coating serves to form a semi-permanent sealing bond between the attached parts, thus preventing the parts from separating while creating a seal. This coating forms a type of weld between each part, due to the fact that the coating cures from a liquid form to a solid form. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to sealingly bond the sleeves of Aton as modified by Wilcox and VanDenberg to the axle, to weld the beams to the sleeves, and to bond the spindles to the axle, for the purpose of preventing the sleeves, axle, beams, and spindles from separating from one another, and thus preventing sudden failure of the suspension system during operation of the vehicle.

9. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aton as modified by Wilcox as applied to claims 1, 30-31, and 36 above, and further in view of Spindler. Aton as modified by Wilcox does not disclose the spindle including a brake mounting attached thereto. Spindler teaches the use of a spindle 14 that includes a brake mounting 12 attached thereto. Therefore from this teaching, it would have been

Art Unit: 3617

obvious to one of ordinary skill in the art at the time of the invention to provide a brake mounting on the spindles of Aton as modified by Wilcox for the purpose of allowing a brake element and/or wheel to be mounted onto the spindle, as is well known in the art, thus providing a means to retard the rotation of a wheel mounted on the spindle.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered to show axle assemblies having a composite axle. For example, Walski et al shows an axle assembly as described above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R Bellinger whose telephone number is 703-308-6298. The examiner can normally be reached on Mon - Thurs (9:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger  
Examiner  
Art Unit 3617

**JASON R. BELLINGER**  
**PATENT EXAMINER**

jrb

*JRB*  
*1/22/05*